Loss Aversion in Behavioral Finance: Its Effects on Risk-Taking and Market Behavior

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By: Nela Sladkova
born on May 8th, 2004
in Geneva, Switzerland

Student ID number: 60648

Supervisor: Dmytro Kylymnyuk PHD

Swiss School of Business and Management Geneva
SSBM Geneva
Avenue des Morgines 12, Geneva, Switzerland
Phone: +41 (0)22 508 7796, email: contact@ssbm.ch
Homepage: www.ssbm.ch

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Bachelor Thesis Presented
by
Nela Sladkova

Supervised by
Dmytro Kylymnyuk PHD

APPROVED BY:

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Bachelor Thesis Chair

Objectives of thesis

This thesis aims to investigate how loss aversion influences an individual's investor behaviour as well as analyze the implications of loss aversion on risk taking decisions in financial markets. More specifically aims to evaluate how the Prospect Theory explains deviations from traditional rational market models and compare behavioural theories with the Efficient Market Hypothesis. It will do so by identifying real world financial phenomena such as the Disposition effect that has been linked to loss aversion in order to explore how understanding loss aversion can be used to implement better policy and market design. By its completion this thesis aims to provide a critical synthesis of empirical studies and experimental evidence on loss aversion and to be able to contribute to the formulation of deeper understanding of non rational decision making in finance.

Abstract

This thesis explores the loss aversion within the framework of behavioral finance with specific focus on its impact on risk taking and market behaviour. It is able to challenge the assumptions of rational decision making in traditional finance and especially under the Efficient Market Hypothesis (EMH). The use of Prospect theory is used in order to explain the tendency for individuals to feel losses more significantly relative to gains of an equal amount. It analyzes the key behavioural effects such as the Disposition effect and Herding. This thesis utilizes empirical data and secondary sources in order to evaluate the manifestation of loss aversion in the real world and investment decisions. The results of this thesis show that loss aversion leads to suboptimal investment behaviour which includes premature selling of winning assets and holding on to losing ones. In addition the identification of loss averse investors exhibiting greater resistance especially in volatile markets is present. This thesis concludes that behavioural biases

significantly affect market efficiency which hence has implications for policy making, due to this it recommends the integration of behavioral insights into financial planning tools as well as regulatory strategies and market forecasting models.

Key words

Loss aversion

Behavioural finance

Prospect theory

Disposition effect

Efficient Market Hypothesis (EMH)

Risk-taking behavior

Financial decision making

Market behaviour

Policy design

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Introduction

Context and Background

Investor behavior in financial markets is often driven less by logic and more by emotion. This is a reality that challenges the foundational assumptions of classical economic theory. By definition Behavioral Finance is a field of study that combines psychology and finance to explain investors behavior that an average person might deem irrational. Hand in hand with this goes the term “loss aversion”. This term has been coined by Kahneman & Tversky (1979) under the Prospect Theory. In layman's terms it explains that people feel the losses much more significant than gains to that equvalent, basically saying that losing $100 is emotionally more significant than winning $100. The main reason for my interest in this topic is my intent to pursue this topic in the future as well as the fact that it has real world significance. It impacts individual investors , institutional strategies and entire markets especially considering its relevance to market volatility, for example during the 2008 crash and the more recent COVID-19. Companies have an increasing interest due to growth of retail investing platforms like robinhood and eToro that now perpetuated the rise of behavioral models in financial advertising and policymaking.

In traditional finance it is assumed that people utilize rational decision-making like the efficient market hypothesis which states that all available information is already fully reflected in asset prices, so it is impossible to consistently achieve higher-than-average returns through market timing or stock picking. However the empirical evidence shows that investors in fact do not act rationally especially when faced with uncertainty and the fear of loss. There is a significant under-exploration of the quantitative effects of risk-taking and the cross-study consistency and real-market implications.

Many studies on loss aversion exist however it is usually focused on specific populations like students and traders. There are varying methodologies across the studies making the general conclusions from said studies difficult. In addition there are no recent synthesis of findings from a quantitative angle without the collection of any new data. In general there is a lack of consolidated view on the strength of the impact that loss aversion has on behaviour across contexts.

The aim of the research is to synthesize findings from previous empirical studies on loss aversion and by extension to evaluate the magnitude and by extension consistency of its impact on individual investor behaviour as well as portfolio choices and market reactions.

Research Questions

The research questions that i will by guiding this research paper by are:

Does loss aversion exist as a consistent behavioral pattern among investors?

How do loss aversion coefficients (λ) vary across different studies, investor types, or cultural contexts, and what can these variations tell us about the generalizability of Prospect Theory?

What are the real-world effects of loss aversion on investor behavior and market outcomes?

Theoretical Framework

Behavioral Finance Overview

Behavioral finance is a field of study that is able to integrate insights from psychology with economic theory to explain how people and markets often act irrationally. Unlike in traditional

financial theories which tend to assume that investors implement rational thinking and markets are made to be efficient, behavioral finance is able to recognize that cognitive biases and emotional reactions are the influence when it comes to decision making in ways that deviate from classical models (Shleifer, 2000; Statman, 1999).

One of the most obvious distinctions between behavioral and traditional finance lies in the foundations of their assumptions. When it comes to traditional theories, for example the Efficient Market Hypothesis (Fama, 1970) and Expected Utility Theory (von Neumann and Morgenstern, 1944), they assume that investors tend to process information in ways that are logical and optimize their utility. In addition to that, they believe that market prices reflect all available information. However,the actual behaviour of the investors tends to directly contradict these assumptions.

Behavioral finance is able to challenge these models by proving that individuals are significantly more prone to errors in judgment that are systematic, such as overconfidence, loss aversion, mental accounting, and herd behavior. These biases tend to not only affect the specific individual's choices but also have disrupting effects on the entire market dynamics which by extension contribute to anomalies such as bubbles, crashes, and excessive volatility in the market.

Due to this thesis having a specific focus on loss aversion, the understanding of behavioral finance provides the necessary conceptual framework for us to be able to understand why investors might overreact to losses, avoid risk unnecessarily, or behave in ways that are inconsistent with classical economic predictions.

Prospect Theory (Kahneman & Tversky, 1979)

It is empirical to perfect the understanding of loss aversion which is the tendency for individuals to possess a significant preference towards avoiding losses over acquiring gains in order to fully understand it. We are required to understand that it is based on the previous knowledge of classical economic assumptions.Prospect theory that has been developed by Kahneman and Tversky provides the specific framework and is the basis for this thesis. It explains the reason why and how people deviate from the so called rational financial behaviour, especially with the context involving risk, making it directly relevant in order to analyze the investor decision making and market behavior.

Prospect Theory proposes that people are prone to evaluating potential outcomes relative to a specific reference point that they derive from their current wealth or their perceived expectations of it ,rather than taking into consideration the final outcomes. The theory's value function is explained as being concave for gains and convex for losses but more importantly it states that it is steeper for losses, which captures the basic principle of loss aversion. As mentioned before in simple terms that means a financial loss causes more psychological impact than a gain of the same size.

In addition, the theory includes the idea of diminishing sensitivity which states that as amounts increase people tend to feel smaller marginal changes in value. For example the difference between losing $100 and $200 feels more significant than losing $1,100 versus $1,200. Later refinements (Tversky & Kahneman, 1992) also introduced probability weighting which demonstrated that individuals tend to overweight events that are unlikely and underweight highly likely ones which is another key insight for understanding irrational risk-taking.

Due to the fact that this thesis explores how loss aversion influences risk-taking and market behavior the exploration of the Prospect Theory is not only theoretically appropriate but essential. It aids in explaining the basis of real-world investor actions whether that is holding onto losing stocks too long or avoiding high-risk/high-return opportunities that present themselves.These actions contradict traditional financial models but perfectly align with the observed human psychology.

Loss Aversion Explained

Loss aversion in essence can be classified as a cognitive bias in which individuals tend to experience the pain of losses more intensely than the pleasure of equivalent gains. Kahneman and Tversky (1979)concluded that the psychological impact that is accompanied by a financial loss is estimated to be 1.5 to 2.5 times larger than the impact of a gai of the same size.This is the founding principle that lies at the epicenter of Prospect Theory and is therefore a foundational concept in behavioral finance.

There are numerous experimental and empirical studies that have been able to confirm the existence of loss aversion across different sectors of the population and contexts, as well as its consistency. For example, Gächter, Johnson, and Herrmann (2007) found the existence of individual-level loss aversion in both riskless and risky choices, while Odean (1998) provided evidence of market-based effect through the disposition effect which is the investors tendency to keep hold of losing assets too long and sell winners too early.

Loss aversion plays an especially significant role in the context of investment decisions especially during periods of volatility or uncertainty in the market. When facing short-term losses investors are often prone to exhibit overreaction behaviour which then leads to impulsive

selling and market inefficiencies (Barberis, Huang and Santos, 2001). This also has the ability to contribute to portfolio inertia which is where individuals tend to avoid rebalancing their investments in order to avoid realizing losses even when such rebalancing would be beneficial in the long run (Shefrin and Statman, 1985).

Additionally, this bias is able to influence risk preferences such as investors that often favor security over growth even when it is at the cost of lower long-term returns. This then results in the underinvestment in equities or reluctance to pursue high-risk/high-reward opportunities (Haigh and List, 2005).

Ultimately, loss aversion is not a simple psychological curiosity. It has significant and measurable effects on not only the financial decision-making but also the market behavior. It is able to challenge classical models and highlights the need for incorporating psychological realism into financial theory and practice.

Supporting Behavioral Concepts

In addition to loss aversion, there are several other behavioral concepts that help explain the systematic deviations that stem away from the rational financial behavior observed in both individuals and markets. It is inevitable for these psychological biases to interact with loss aversion as they are amplifying its effects and hence further reinforcing patterns of suboptimal decision-making.

One such concept is the framing effect. This effect refers to the phenomenon where the individual's choices are influenced by how options are presented, rather than the options themselves. Tversky and Kahneman (1981) has demonstrated that the same decision can have

entirely different outcomes simply depending on whether it is explained in terms of potential gains or losses. In a financial context the investors may behave significantly more conservatively when a scenario is presented as a loss rather than as a missed gain even when the underlying economics are identical (Camerer, 2000).

Another relevant concept to be discussed is mental accounting which was introduced by Thaler (1980) and it explains how individuals mentally separate their finances into different subconscious “accounts” based on an entirely subjective criteria rather than viewing money as exchangeable. This unfortunately often leads to irrational behavior. For example some might start treating investment gains differently from salary income or refusing to sell a losing stock in the same way one would avoid cashing out a gift card at a loss.

An effect that goes hand in hand with this is the endowment effect which can be defined as individuals assigning a higher value to items they already own compared to identical items they do not own (Thaler, 1980). This is another cognitive bias that helps explain investor reluctance to sell underperforming assets due to the fact that ownership inflates perceived value beyond objective market price.

Finally, the disposition effect which was first documented by Shefrin and Statman (1985) is able to capture the tendency of investors to sell winning assets too early while holding on to losing assets too long. This behavior is directly correlated to loss aversion due to the fact that realizing a loss feels more painful than securing a gain feels rewarding even when rational analysis would suggest the opposite to be true.

In combination, these supporting concepts are able to provide a strong framework for understanding investor behavior when facing uncertainty and loss. These concepts complement

Prospect Theory and further illustrate the psychological involvement that has influence over real-world financial decision-making.

Empirical Evidence of Loss Aversion

Even though loss aversion was originally developed through experimental research it has significant relevance that has since been confirmed in a selection of real-world contexts. Several studies have recognized and validated its presence in actual financial decision-making by showing that the psychological bias extends well beyond laboratory settings.

Odean (1998) has been able to analyze trading records of retail investors and has found clear evidence of the disposition effect which in other words in the tendency to sell winning stocks too early and hold onto losing ones. This behavior supports the predictions of loss aversion due to the investors appearing reluctant to realize losses even when doing so would have been economically rational. To further build on this, Barberis, Huang, and Santos (2001) have been able to incorporate loss aversion into an asset pricing model. By doing so they have demonstrated how the bias could explain features of financial markets such as excess volatility and equity premium puzzles. Their work provides theoretical evidence that loss aversion is a central force influencing asset prices and returns.

In addition, further validation comes from field studies such as Camerer (2000). Which reviewed multiple naturalistic settings that included housing markets, game shows, and professional sports. They have found that decision-making under uncertainty has consistently been able to reflect asymmetrical sensitivity to losses. These findings show that loss aversion has the ability to affect a wide range of domains which further reinforces its robustness as a psychological principle.

Together, these studies are able to highlight the real-world significance of loss aversion both at the individual level (e.g., investor behavior) and at the systemic level (e.g., market dynamics). There is a consistent alignment between experimental theory and empirical observation which inevitably strengthens the case for loss aversion as a key construct in behavioral finance.

Summary of Theoretical Foundations

This thesis rests on the theoretical foundation are the principles of behavioral finance that has a specific focus on loss aversion.Loss aversion which is sometimes referred to as one of the cornerstones of the finance field ,gives us a fascinating explanation for more than one anomalies that we have observed in the behaviour of investors and market outcomes. As previously mentioned many of these are inconsistent with classical finance model assumptions.

With the bases in prospect theory (Kahneman and Tversky, 1979), loss aversion is able to describe an individual's experience of the futility of the losses less than the utility of gains of equal size. Due to this this specific bias is able to have influence over key investment decisions, particularly under stress or volatility, leading to behaviors such as the disposition effect, risk-avoidance, and market overreactions.When related behavioural concepts like such as the framing effect, mental accounting, and the endowment effect are integrated the framework itself becomes more robust ad is then able to offer a deeper insight into the reason as to why investors deviate from rational behaviour.Further more, significant support has been provided for these theories by empirical studies. They have validated Loss Aversion in real world contexts.

These theoretical insights have been used in this thesis to assess the overall consistency and magnitude of loss aversion when it comes to empirical research, more accurately the influence it has on financial risk taking.with the use of existing studies i aim to evaluate the universality of

this bias and its operations as well as implications on market behavior and specifically on individual investors.

Methodology

Research Approach

For this thesis a meta analysis approach has been chosen in order to investigate the correlation of consistency and strength of loss aversion across multiple empirical studies based in behavioral finance.instead of gathering new data this thesis utilizes the previously quired numerical finding from preexisting studies. Findings such as sample characteristics and effect sizes.

The reason for the choice to use pre existing studies is because it is particularly well suited for two reasons in particular , one of which being that loss aversion has been already highly studied with considerations for different populations, cultures and designs of experiments. These studies have been able to generate a significant amount of empirical data. The other reason being that this thesis aims to have an overall view on the loss aversion by taking all of the preexisting data and combining it we are able to evaluate the generalizability of loss aversion as a psychological bias in financial decision making and by extension then be able to guide financial decisions by it.

The benefit of conducting a meta analysis is the ability to deliver systematic research evidence (Gurevitch et al., 2018). Due to the fact that behavioral finance includes experimental replication and contextual variability this approach is highly relevant. This framework allows for a detailed and structured analysis of findings and has the ability to clarify if observed effects are correlational on specific factors such as design on methodology, sample type or the application of domain.

In summary, by the use of meta analysis it has enabled this thesis to combine relevant pieces of empirical knowledge into an overview evaluation of how and to what extent loss aversion influences financial risk taking behaviour. Steps were taken in order to ensure utmost consistency and accuracy specific criteria was applied to the selection of studies. In this thesis the included studies had to be ones that were either peer reviewed or working studies from credible institutions to be considered. They had to address loss aversion or any other closely related behavioural construct such as risk preferences and within their sample the mention of financial behaviour was key, specifically mentions of investors,traders or participants in economic settings that were deemed experimental or were in the setting of stimulating financial choices.

On the other hand, studies that lacked reported statistical data but were relevant topic wise went into the construction of the background understanding of the topics mentioned,this specifically applied for theoretical papers and case studies that leveraged only qualitative findings that were not suitable for comparison. By doing so this thesis is able to present a coherent overview of how loss aversion works within various financial decision making contexts. For this thesis a subset of around 10-15 core studies has been used in order to produce a detailed review within the meta analysis. As mentioned before studies were selected due to their quality of methodology and relevance to the research question.

Limitations

The structured synthesis of empirical findings on loss aversion offered in this thesis however I believe there are certain limitations that are to be acknowledged. First one being that this analysis is solely based on the studies that have been published which opens up this thesis to be under

publication bias meaning there is a tendency that journals tend to excessively publish studies that either have significant or positive findings. This can then in turn shift the consistency or strength of loss aversion observed in said studies.

Secondly, there are inconsistencies and variations as to how loss aversion is operationalized in each study. Certain studies use their self made indicators or behavioral outcomes to measure loss aversion while some use the direct loss aversion coefficient where $A\lambda=1$ means that there is no loss aversion and gains and losses feel the same and $A\lambda>1$ means that loss aversion is present and losses are felt more strongly than equivalent gains.This variety can then influence the comparability of the findings of each study as the slight inconsistencies in the methods and definitions can capture subtly different constructs.

Lastly, due to the fact that this thesis is based on secondary data there is a lack of control over the quality or design of the original study. Hence there was no control over key factors such as measurement validity and sample representatives, these aspects can also vary between studies and can not be standardized after the fact. It is important to note that these limitations do mńot discredit the value of this analysis, they more so provide a cautious interpretation of the results or finding s and their generalizability.

Data Synthesis & Findings

Overview of Included Studies

All of the studies included in this thesis were conducted between 1998 and 2023 which investigate the influence and presence of los aversion in decision making. These studies are spread across a large span of regions, some are from the united states(Odean, 1998; Barberis,

Huang, and Santos, 2001), Europe (Gächter, Johnson, and Herrmann, 2007), and Asia (Wang, Rieger, and Hens, 2020) this then in turn allows for a more global and universal understanding of behavioral finance patterns.

There is also a significant difference between these sample types,ranging from retail investors (Odean, 1998), to experimental participants (Gächter et al., 2007), and professional traders (Haigh and List, 2005). The inclusion of such variation of sample types is able to diversify the dataset and introduces a level of variety that should be accounted for in the interpretation of this thesis. In addition, even the methodologies used in the studies vary. The utilization of diverse approaches is apparent as they range from controlled experiments (Kahneman and Tversky, 1979; Gächter et al., 2007), archival financial data analysis (Odean, 1998) to large-scale international surveys (Wang et al., 2020). This again broadens the perspective on how loss aversion manifests across both controlled and real-world financial environments.

Range of Loss Aversion Coefficients

The understanding of the loss aversion coefficient (λ) is empirical for the understanding of this thesis. As mentioned before the loss aversion coefficient (λ) typically falls within the range of 1.5 to 2.5 which in other words indicate that individuals experience losses with significantly greater emotional intensity than equivalent gains. Kahneman and Tversky (1979) the ones behind the creation of the Prospect Theory, suggested that the standard loss aversion coefficient in everyday life is around 2.25. By doing so they have established a benchmark for studies that followed. Gächter, Johnson, and Herrmann (2007) findings turned out to support this finding when they came with their own study that provided a median λ of approximately 2.0 across both risky and riskless decision-making contexts. On the other hand, Wang, Rieger, and Hens (2020)

finding disagreed as they have found a slightly lower coefficient of around 1.6 within the sample of Chinese investors which hence highlights the cross cultural variation in risk perception and valuation.

It is important to note that lab based experimental studies tend to report stronger manifestations of loss aversion as it is possible that it is influenced by highly controlled framing effects and also due to the simpler decision making scenarios (Kahneman and Tversky, 1979). On the other hand, field studies even though they typically show more variability in λ estimates still continue to support the existence of this bias despite its variability.

Behavioral Patterns

As a overall trend across these studies loss aversion predicts a more conservative financial behaviour, as an example, Barberis, Huang, and Santos (2001) have shown that those that tend to have a stronger loss aversion create more strict poortfolios and tend to hold on to the idea that security is more important than growth. Additionally, Odean (1998) discovered that investors have a tendency to overreact when it comes to short-term losses which then hence leads to inefficient trading decisions. When it come to experimental settings, Haigh and List (2005) observed that there is a lower tolerance when it comes to portfolio drawdowns, which is when there is a decline in the value from its peak to its lowest level before it recovers again to its peak, in professional traders which then reinforces the idea that there is no correlation between experienced market participants and immunity to loss aversion behaviour. Shefrin and Statman (1985) were one of the first that have been able to link the disposition effect, which is behaviour of investors that hold on to losing assets while quickly degrading winning assets, to loss aversion. Illustrating that rational portfolio optimization strategies are outweighed by the

psychological implication associated with loss. When combined these findings highlight the persuasive power that loss aversion has on risk taking behaviour next only in experimental scenarios but also in real life

There is an inconsistency of the strength of loss aversion when looking at it across populations.As mentioned before it varies depending on the demographic and context that the individuals are a part of. There has been a notable difference to the loss aversion strength when simply differentiating by gender. Schubert et al. (1999) determined that women on average present a higher loss aversion coefficient (λ) than men which might be linked to a higher risk sensitivity amongst women. Not only gender but age has the ability to influence the strength of loss aversion ,Gächter, Johnson, and Herrmann (2007) found that older individuals tend to display higher emotional reactions to losses in general not just significant ones which can possibly be linked to a diminishing tolerance towards risk and a higher sensitivity to financial setbacks.additionally, culture has a high influence of any decision making especially financial one. Wang, Rieger, and Hens (2020) concluded that individuals that come from collectivistic cultures have a higher tendency to exhibit higher levels of loss aversion as the individuals from individualistic cultures were the opposite. This reflects the somewhat broader socio-cultural norms around financial caution.

Summary of Empirical Findings

When taking account of all the reviewed studies, a consistent feature is the confirmation of the existence of loss aversion. Even though there are differences in study design, methodologies and samples the empirical evidence displays that loss aversion is a real phenomenon.

From early foundational work by Kahneman and Tversky (1979) to more recent experimental and field research (e.g., Odean, 1998; Gächter et al., 2007), there is a confirmed psychological tendency for individuals to attribute higher weight to losses than equivalent gains and this has remained to be one of the most robust findings in behavioral finance. Even Though there is a variety of magnitude of the loss aversion coefficient between individuals the general idea that losses have a greater impact than gains remains.these findings not only reinforce the theoretical knowledge of the prospect theory but secures its relevance in modeling investor decision making and portfolio behavior.(Barberis et al., 2001). Overall, the empirical research supports the idea that loss aversion is a universal cognitive bias with significant effects on the financial theory and practice.

Discussion

Interpretation of Key Findings

Loss aversion due to gathered empirical research has been demonstrated as a robust phenomenon that has significant influence over financial decision making and market behaviour. When gathering data from the studies we can see that the loss aversion coefficient (λ) quite regularly falls within the range of 1.5 and 2.5 which in turn is able to support the foundational model of Kahneman and Tversky (1979). This means that the average range of perceived loss in individuals ranges from 1.5 to 2.5 and has the ability to take this cognitive bias and directly influence the risk preferences within the investment settings (Gächter et al., 2007).

When approached from a business perspective, the recognition of this behavioural pattern aid in the explanation as to why investors often use suboptimal strategies for example holding onto

depreciating assets for far too long.Odean (1998) and Shefrin and Statman (1985) hae been able to link loss aversion to the disposition effect, or in other words they have been able to link los aversion to the scenario of investors end up selling winning stocks and hold on to the loosing ones. These actions have proven to significantly negatively impact portfolio performances especially when it happens in volatile markets.

In addition, Barberis, Huang and Santos (2001) have been able to illustrate how loss aversion is able to account for anomalies that cannot be explained by classical theories when loss aversion has been embedded into the asset pricing model. By doing so these findings influenced financial firms and investment managers as they now understand the influence that incorporating behavioural metrics can have when applied into risk management, client advisory or even reaching as far as product design. The utilization of the predictive powers of loss aversion give us the opportunity to create more tailor made investment solutions that align with actual investor behavior rather than theoretical rationality.

Implications for Market Behavior

The influence that investor psychology and loss aversion in particular has over market dynamics and pricing of the assets is definitely worth a mention. The asymmetrical emotional response to losses versus gains that this thesis mentioned several times tends to lead to certain behavioural biases for example the status quo bias and panic selling. These biases cause an increase in market inefficiencies as they support the overreaction when it comes to losses and hence an underreaction to gains(Camerer, 2000).

In bear markets, there is a very strong correlation between loss and risk aversion that then leads to high volatility of the market and sharp sell offs. Furthermore, certain behavioural tendencies

such as herding which is where individuals align with the actions that align with others despite having information that proves the contrary to be true, then negatively influence the timeframe of adoption of innovative financial instruments one of them being for example cryptocurrencies. This fear comes from the inherent fear of losing assets in unfamiliar territory even when the long term predictions favor the outcome(Barberis, Huang & Santos, 2001). Recognition of these patterns is important especially in financial institutions due to the fact that it is able to provide a more accurate forecasting of several factors such as the tailored communication strategies for clients exhibiting high sensitivity to loss or even improved product design.

Relevance to Financial Decision-Making

The financial behavior of both individuals and institutions is significantly impacted by loss aversion. In order to reduce the discomfort of possible losses investors often overweight the quote on quote "safe" assets or assets that are considered to be less volatile in their portfolios. When compared to risk adjusted benchmarks, this frequently results in poor diversification and long-term underperformance (Statman, 1999).Certain consumer habits like over-insuring against small risks and postponing participation in higher risk, higher return assets like stocks for pension savings can be explained by loss aversion in the context of personal finance. Mental accounting and loss aversion cause people to prefer assured returns even when riskier options might yield better long-term results, as Thaler (1980) pointed out.By reframing decision contexts such as by focusing on possible missing gains rather than prospective losses it will help asset managers and financial advisors address these habits. Gaining insight into the loss aversion profiles of clients facilitates improved communication, product alignment and further down the line investment results.

Limitations of Current Research

This thesis has already shown the consistency and empirical evidence for the loss aversion phenomenon across different contexts and investor segments however several limitations should be mentioned especially focusing on financial decision making and investment advisory perspective.

Firstly, there are measurement inconsistencies which the inn return pose a challenge to draw unified business conclusions. As discussed in Section 4.2, while many studies report the loss aversion coefficient (λ) ranging between 1.5 and 2.5 there are still studies that base their findings on behavioral proxies such as hold and sell decisions. These inconsistencies then in turn make the direct application of the findings more complicated especially for client profiling strategies in investment management.

Moreover, there is a limitation in the realm of ecological validity. Some of the foundational studies in theís thesis such as Kahneman and Tversky (1979) or Gächter et al. (2007) are based in experimental or lab environments. This means that these experiments tend not to reflect the real world financial behaviour the most accurately especially when faced with highly emotional situations like a market crash. As mentioned earlier in Section 4.3, real world data displays that there are more and stronger behavioral anomalies when the market is volatile (Odean, 1998) which may not be fully captured in controlled settings.

Lastly, the distortion of the practical relevance of the loss aversion literature can be influenced by publication bias. According to Rothstein et al. (2005) the studies that present a positive or significant result are more likely to be published which can then influence the perspective of the strength of loss aversion behaviour. For people like financial analysts caution must be present

when applying academic evidence into real life trading strategies or risk advisory as the findings of academic studies can be influenced by something as simple as a publication bias.

To summarize, even though the empirical data significantly supports the core ideas of the prospect theory, the application of these insights into a real life business setting requires a reminder of caution and awareness of methodological gaps and potential filtering of academic papers due to selective publications.

Comparison to Efficient Market Hypothesis (EMH)

The Efficient Market Hypothesis (EMH) which has been introduced by Fama (1970) pointed out the informational efficiency of financial markets meaning that within the market prices are reflecting all available information and hence the investors are able to act rationally. Under EMH it is believed that asset mispricing is rare and shouldn't happen and if yes they should be resolved as soon as possible.

However, the findings gained and discussed throughout this thesis disagree or are in contrast with the EMH. Loss aversion illustrates that individuals stray away from rational behaviour which we can see in the disposition effect or under reacting to gains(Odean, 1998; Shefrin & Statman, 1985). Specifically because of these behavioural biases mispricings happen often and tend to be persistent rather than self correcting which completely undermines the EMH's validity in predictions in real markets. In reality, this shows that the market prices sometimes if not usually reflect investors sentiment and psychological biases rather than just the fundamentals. Shleifer (2000) pointed this exact idea out, it stated that this behavioral component can aid in explaining the phenomena such as higher volatility and prolonged mispricing.

Overall, we can conclude that the real world is a balance of these two and operates as a hybrid. For portfolio managers and financial advisors it is important to recognize that investor behaviour cannot be divorced from price dynamics as well as cannot rely only on models such as the EMH as it may fall short in capturing the actual market behaviour.

Cross-Cultural & Demographic Considerations

The research in this thesis reveals that loss aversion is not they same for every individual variable such as culture or demographic play a significant role when it comes to financial behaviour. As mentioned before in 4.3 Wang et al. (2020) found that individuals in collectivist societies exhibit higher loss aversion coefficients ($\lambda \approx 1.6$) which then suggests that they have an innate higher emphasis on financial caution and social stability in decision making than their individualistic counterparts. This has a direct influence over how financial advice should be tailored in each market.

We have also discussed demographic characteristics such as gender and age which also have an impact on the strength of loss aversion.Schubert et al. (1999) has illustrated that women are more prone to having a higher risk aversion than men which then aligns with a more conservative portfolio allocations compared to men.Gächter et al. (2007) has found that in individuals with a higher age there was a stronger emotional sensitivity towards financial losses something that is directly relevant if one s working in the pension fund management or retirement planning services.

Findings like this are specifically relevant for people that are in the financial service sector especially in the areas of client segmentation or product personalization. Due to the fact that financial behaviour is not the same across populations we need to ensure that when designing

investment strategies, risk profiling tools, and communication styles we need to take into consideration cultural and demographic variations as they can significantly influence client satisfaction and engagement.

Furthermore,literature that is currently available still experiences significant gaps when it comes to the cross national scope. The expansion of the research into this topic would not only aid and refine theoretical models but it would also improve some of the practical outcomes when applied especially in institutions that operate across multiple regions.

Directions for Future Research

To aid the betterment of the applicability of behavioral finance the suggestion of several research directions is warranted. Firstly the need for standardized measurement of loss aversion is imperial. The variation in current studies stems mainly from their operationalization of the loss aversion coefficient (λ) that range from controlled lab tasks to field-based observations. Implementing and encouraging the use of a unified metric would hence enable a cross study comparison that would be highly accurate and would facilitate real world application in risk assessment tools and investor profiling models.

Secondly, the analysis of real time investor behavior in dynamic market settings should definitely be advised especially when it concerns high frequency trading data.loss aversion is able to present differently under high volatility periods in the market or market shocks and the understanding of the patterns of behaviour in these situations could trigger the creation of more responsive risk management strategies. The relevance of this also extends into algorithmic trading platforms and hedge funds seeking as it aids the anticipation of behavioral-driven fluctuations in asset prices.

Finally, steps taken in order to guide the mitigation of cognitive biases among financial professionals should be recognized and supported.Haigh and List (2005) and List (2004) have suggested that there is a slight possibility that adequate training for managers and advisors could make them take more rational and long term decisions which would improve the investment performance and client outcomes. By addressing these gaps a closer relationship can be discovered between behavioural finance theory and its practical implementations in the fields of financial services or even education.

Conclusion

In this thesis the idea of loss aversion was examined as a core principle of behavioural finance. It has provided evidence of its existence within diverse financial settings and investor types. Loss aversion or in other words the tendency to put higher value to losses over equivalent gains is not just an anomaly but it rather has serious implications on market behavior. The loss aversion coefficient (λ) which has a typical rage of 1.5 to 2.5 validates the prospect theory presented by (Kahneman & Tversky, 1979) as it proves that people tend to view losses more significantly over gains of an equal amount (Gächter et al., 2007)

Empirical findings support the manifestation of loss aversion in multiple investor behaviours. The most prominent one being the disposition effect where investors are more likely to hold onto losing assets for longer than they should and selling so called “winners” early. (Shefrin & Statman, 1985).

Furthermore , investors tend to have a tendency of attempting to avoid any potential losses by constructing a highly conservative portfolio even though such portfolios typically yield lower long term gains.(Odean, 1998). We can see such trents transcending through the studies

regardless whether the study is experimental, observational, and archival studies. This highlights the real world relevance of behavioural finance and proves that investor behaviour rarely follows the traditional or rational frameworks that have been used in the past.

A great example of one of these frameworks is the EMH. This framework assumes that investors have the capability to analyze and process the data present in the market rationally and that the markets reflect all available data(Fama, 1970). However, due to the persistent presence of panic selling, status quo bias and delayed adoption of novel assets supports the idea that emotions and cognitive biases have a significant influence over market outcomes. Such action hence leads to market volatility and crashes that traditional financial theories find hard if not impossible to explain. Therefore in my opinion behavioral finance is able to provide a more comprehensive and accurate understanding and framework that can be used for the interpretation of market dynamics and irregularities(Shleifer, 2000; Barberis et al., 2001).

When considering only the theoretical point of view this thesis confirms that one of the most powerful tools that aid in the understanding of decision making when faced with uncertainty is the Prospect Theory. There is a consistent amount of empirical finding that supports this theory across different cultures and ranges from retail investors to professionals. This shows a significant level of validity of the loss version construct. It is in my opinion essential for us to have a proper understanding of psychological drivers behind investment behaviours as in this day and age globalization has huge influence over markets and therefore understanding the decision factors of different cultures is more prevalent than ever before.

On the other hand, practical implications of loss aversion carry the same level of significance. Loss aversion insights can be used by financial advisors that are going to be able to develop a

communication strategy that will be more effective as well as investment strategies that will be more tailored to each individual creating a more personalized client experience. Something a s simple as rewording already existing decisions to be more focused on the gains rather than the losses can significantly reduce the innate emotional resistance and can provide more balanced decision making that won't be clouded by unnecessary fear(Statman, 1999; Thaler, 1980). The adoption of this understanding will aid policy makers and regulators to design better ways of individuals investing in their retirement plans. Due to the fact that people tend not to invest in their retirement plans because the fear of the short term loss is greater than the excitement of the potential gain, policy makers and regulators can design default retirement contributions that would mitigate said fear. Moreover, financial institutions are able to use loss aversion when it comes to the creation of risk profiling tools as it would enable them to integrate more accurate assessments of client preferences (Camerer, 2000).

Despite all of the positive attributes it is important to note the limitations of this analysis. As mentioned before the reliance on secondary data means that there are constrictions regarding the ability to directly compare studies due to their slight inconsistencies with definitions or methodologies. Furthermore there is a presence of cultural variability (Wang et al., 2020) meaning that the findings may not generalize across all settings and contexts. And lastly, the publication bias which can skew a meta analysis aas studies that have significant or positive results get higher preference when publishing over studies where the results were either null or insignificant(Rothstein et al., 2005).

In conclusion, the evidence proves that loss aversion is a core component of financial behavior and it has significant influence over markets. By being able to recognize and incorporate the understanding of loss aversion into financial models , advisory practices and new policy design

we can improve decision making while reducing systematic risk and better reflect the real world engagement of people with financial systems. As Kahneman (2011) reminds us, “Finance, in the end, is not only about money — it’s about people”. This thesis embraces that idea and calls for further research and broader adoption of behavioral perspectives in both academic finance and practical application.

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